

(c) a polynucleotide encoding an epitope-bearing portion of amino acid residues 1 to 796 of SEQ ID NO:56;

(d) a polynucleotide probe encoding at least 15 contiguous amino acid residues of amino acid residues 1 to 796 of SEQ ID NO:56;

(e) a polynucleotide consisting of at least 50 contiguous nucleotides of nucleotides 1-2389 of SEQ ID NO:55; and

(f) a polynucleotide completely complementary to a polynucleotide in (a), (b), (c), (d), or (e) above.

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~~199~~. (New) The isolated nucleic acid molecule of claim ~~198~~, wherein said polynucleotide is (a).

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~~200~~. (New) The isolated nucleic acid molecule of claim ~~198~~, wherein said polynucleotide is (b).

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~~201~~. (New) The isolated nucleic acid molecule of claim ~~198~~, wherein said polynucleotide is (c).

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~~202~~. (New) The isolated nucleic acid molecule of claim ~~198~~, wherein said polynucleotide is (d).

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~~203~~. (New) The isolated nucleic acid molecule of claim ~~198~~, wherein said polynucleotide is (e).

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~~204~~. (New) The isolated nucleic acid molecule of claim ~~198~~, wherein said polynucleotide is (f).

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~~205~~. (New) The isolated nucleic acid molecule of claim ~~199~~, wherein said polynucleotide is SEQ ID NO:55.

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~~206~~. (New) The isolated nucleic acid molecule of claim ~~201~~, wherein said epitope-bearing portion comprises amino residues Arg-10 to Arg-17 of SEQ ID NO:56.

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~~207~~. (New) The isolated nucleic acid molecule of claim 201, wherein said epitope-bearing portion comprises amino residues Lys-29 to Ser-39 of SEQ ID NO:56.

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~~208~~. (New) The isolated nucleic acid molecule of claim 201, wherein said epitope-bearing portion comprises amino residues Ser-140 to Ala-153 of SEQ ID NO:56.

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~~209~~. (New) The isolated nucleic acid molecule of claim 201, wherein said epitope-bearing portion comprises amino residues Arg-158 to Tyr-169 of SEQ ID NO:56.

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~~210~~. (New) The isolated nucleic acid molecule of claim 201, wherein said epitope-bearing portion comprises amino residues Asp-175 to Ala-183 of SEQ ID NO:56.

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~~211~~. (New) The isolated nucleic acid molecule of claim 201, wherein said epitope-bearing portion comprises amino residues Gly-216 to Asn-236 of SEQ ID NO:56.

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~~212~~. (New) The isolated nucleic acid molecule of claim 201, wherein said epitope-bearing portion comprises amino residues Ala-261 to Leu-270 of SEQ ID NO:56.

¹³
213. (New) The isolated nucleic acid molecule of claim ⁴201, wherein said epitope-bearing portion comprises amino residues Arg-282 to Phe-291 of SEQ ID NO:56.

¹⁹214. (New) The isolated nucleic acid molecule of claim ⁴201, wherein said epitope-bearing portion comprises amino residues Thr-297 to Ala-305 of SEQ ID NO:56.

²⁰215. (New) The isolated nucleic acid molecule of claim ⁴201, wherein said epitope-bearing portion comprises amino residues Pro-342 to Gln-362 of SEQ ID NO:56.

²¹216. (New) The isolated nucleic acid molecule of claim ⁴201, wherein said epitope-bearing portion comprises amino residues Phe-455 to Asp-463 of SEQ ID NO:56.

²²217. (New) The isolated nucleic acid molecule of claim ⁴201, wherein said epitope-bearing portion comprises amino residues His-497 to Thr-511 of SEQ ID NO:56.

²³218. (New) The isolated nucleic acid molecule of claim ⁴201, wherein said epitope-bearing portion comprises amino residues Ala-521 to Gly-529 of SEQ ID NO:56.

²⁴219. (New) The isolated nucleic acid molecule of claim ⁴201, wherein said epitope-bearing portion comprises amino residues Ile-537 to Val-546 of SEQ ID NO:56.

²⁵220. (New) The isolated nucleic acid molecule of claim ⁴201, wherein said epitope-bearing portion comprises amino residues Ile-556 to Ala-568 of SEQ ID NO:56.

²⁶221. (New) The isolated nucleic acid molecule of claim ⁴201, wherein said epitope-bearing portion comprises amino residues Pro-581 to Ser-595 of SEQ ID NO:56.

²⁷222. (New) The isolated nucleic acid molecule of claim ⁴201, wherein said epitope-bearing portion comprises amino residues Glu-670 to Ala-685 of SEQ ID NO:56.

²⁸223. (New) The isolated nucleic acid molecule of claim ⁴201, wherein said epitope-bearing portion comprises amino residues Ser-696 to Ala-705 of SEQ ID NO:56.

²⁹224. (New) The isolated nucleic acid molecule of claim ⁴201, wherein said epitope-bearing portion comprises amino residues Leu-782 to Ser-791 of SEQ ID NO:56.

⁶225. (New) The isolated nucleic acid molecule of claim ⁵202, wherein said polynucleotide encodes at least 30 contiguous amino acid residues of amino acid residues 1 to 796 of SEQ ID NO:56.

⁸226. (New) The isolated nucleic acid molecule of claim ⁷203, wherein said polynucleotide consists of at least 100 contiguous nucleotides of nucleotides 1-2389 of SEQ ID NO:56.

³³227. (New) The isolated nucleic acid molecule of claim ¹198, wherein said nucleic acid molecule comprises a heterologous polynucleotide sequence.

³⁴228. (New) The isolated nucleic acid molecule of claim ³³227, wherein said heterologous polynucleotide sequence encodes a heterologous polypeptide.

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~~229~~. (New) A method for making a recombinant vector comprising inserting the isolated nucleic acid molecule of claim ~~198~~ into a vector.

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~~230~~. (New) A recombinant vector comprising the isolated nucleic acid molecule of claim 198.

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~~231~~. (New) The recombinant vector of claim ~~230~~, wherein said nucleic acid molecule is operably associated with a heterologous regulatory sequence that controls gene expression.

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~~232~~. (New) A recombinant host cell comprising the isolated nucleic acid molecule of claim ~~198~~.

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~~233~~. (New) The recombinant host cell of claim ~~232~~, wherein said nucleic acid molecule is operably associated with a heterologous regulatory sequence that controls gene expression.

³⁰⁴⁶
~~234~~. (New) A method of producing a polypeptide comprising:
(a) culturing a host cell containing the polynucleotide of claim ~~201~~ under conditions suitable to produce a polypeptide encoded by said polynucleotide;
(b) isolating said polypeptide from said host cell.

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~~235~~. (New) A polypeptide produced by the method of claim ~~234~~.

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~~236~~. (New) A method of using the polynucleotide of claim ~~198~~ to detect a nucleic acid molecule which hybridizes to said polynucleotide in a biological sample comprising:

- (a) obtaining a biological sample suspected of containing said nucleic acid molecule;
- (b) contacting said biological sample with said polynucleotide under conditions suitable for hybridization of said polynucleotide to said nucleic acid molecule; and
- (c) determining the presence or absence of said nucleic acid molecule in said biological sample.

⁴²
~~237~~. (New) An isolated polypeptide comprising a member selected from the group consisting of:

- (a) a polypeptide of amino acid residues 1 to 796 of SEQ ID NO:56;
- (b) a polypeptide of amino acid residues 2 to 796 of SEQ ID NO:56; and

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(c) an epitope-bearing portion of a polypeptide consisting of amino acid residues 1 to 796 of SEQ ID NO:56.

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~~238~~. (New) The isolated polypeptide of claim ⁴²~~237~~, wherein said polypeptide is

(a). ⁶³
~~239~~. (New) The isolated polypeptide of claim ⁴²~~237~~, wherein said polypeptide is

(b). ⁴³
~~240~~. (New) The isolated polypeptide of claim ⁴²~~237~~, wherein said polypeptide is

(c).

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~~241~~. (New) The isolated polypeptide of claim ⁴³~~240~~, wherein said epitope-bearing portion comprises amino residues Arg-10 to Arg-17 of SEQ ID NO:56.

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~~242~~. (New) The isolated polypeptide of claim ⁴³~~240~~, wherein said epitope-bearing portion comprises amino residues Lys-29 to Ser-39 of SEQ ID NO:56.

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~~243~~. (New) The isolated polypeptide of claim ⁴³~~240~~, wherein said epitope-bearing portion comprises amino residues Ser-140 to Ala-153 of SEQ ID NO:56.

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~~244~~. (New) The isolated polypeptide of claim ⁴³~~240~~, wherein said epitope-bearing portion comprises amino residues Arg-158 to Tyr-169 of SEQ ID NO:56.

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~~245~~. (New) The isolated polypeptide of claim ⁴³~~240~~, wherein said epitope-bearing portion comprises amino residues Asp-175 to Ala-183 of SEQ ID NO:56.

⁴⁹
~~246~~. (New) The isolated polypeptide of claim ⁴³~~240~~, wherein said epitope-bearing portion comprises amino residues Gly-216 to Asn-236 of SEQ ID NO:56.

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~~247~~. (New) The isolated polypeptide of claim ⁴³~~240~~, wherein said epitope-bearing portion comprises amino residues Ala-261 to Leu-270 of SEQ ID NO:56.

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~~248~~. (New) The isolated polypeptide of claim ⁴³~~240~~, wherein said epitope-bearing portion comprises amino residues Arg-282 to Phe-291 of SEQ ID NO:56.

⁵²
~~249~~. (New) The isolated polypeptide of claim ⁴³~~240~~, wherein said epitope-bearing portion comprises amino residues Thr-297 to Ala-305 of SEQ ID NO:56.

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~~250~~. (New) The isolated polypeptide of claim ⁴³~~240~~, wherein said epitope-bearing portion comprises amino residues Pro-342 to Gln-362 of SEQ ID NO:56.

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~~251~~. (New) The isolated polypeptide of claim ⁴³~~240~~, wherein said epitope-bearing portion comprises amino residues Phe-455 to Asp-463 of SEQ ID NO:56.

⁵⁵
~~252~~. (New) The isolated polypeptide of claim ⁴³~~240~~, wherein said epitope-bearing portion comprises amino residues His-497 to Thr-511 of SEQ ID NO:56.

⁵⁶
~~253~~. (New) The isolated polypeptide of claim ⁴³~~240~~, wherein said epitope-bearing portion comprises amino residues Ala-521 to Gly-529 of SEQ ID NO:56.

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~~254~~. (New) The isolated polypeptide of claim ⁴³~~240~~, wherein said epitope-bearing portion comprises amino residues Ile-537 to Val-546 of SEQ ID NO:56.

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⁵³ 255. (New) The isolated polypeptide of claim ⁴³ 240, wherein said epitope-bearing portion comprises amino residues Ile-556 to Ala-568 of SEQ ID NO:56.

⁵⁹ 256. (New) The isolated polypeptide of claim ⁴³ 240, wherein said epitope-bearing portion comprises amino residues Pro-581 to Ser-595 of SEQ ID NO:56.

⁶⁰ 257. (New) The isolated polypeptide of claim ⁴³ 240, wherein said epitope-bearing portion comprises amino residues Glu-670 to Ala-685 of SEQ ID NO:56.

⁶¹ 258. (New) The isolated polypeptide of claim ⁴³ 240, wherein said epitope-bearing portion comprises amino residues Ser-696 to Ala-705 of SEQ ID NO:56.

⁶² 259. (New) The isolated polypeptide of claim ⁴² 240, wherein said epitope-bearing portion comprises amino residues Leu-782 to Ser-791 of SEQ ID NO:56.

⁶⁴ 260. (New) The isolated polypeptide of claim ⁴² 237, wherein said polypeptide is fused to a heterologous polypeptide.

⁶³ 261. (New) A method of using the polypeptide of claim ⁶⁷ 238 to detect an antibody which specifically binds said polypeptide comprising:
(a) obtaining a biological sample containing said antibody;
(b) obtaining a biological sample containing said polypeptide;
(c) contacting said antibody containing sample with said polypeptide containing sample under conditions suitable for said antibody to specifically bind said polypeptide; and

(d) detecting the presence of said antibody bound to said polypeptide.

⁶⁵ 262. (New) A method of producing the polypeptide of claim ⁴² 237 comprising:
(a) culturing a host cell capable of expressing said polypeptide under conditions suitable to produce said polypeptide; and
(b) isolating said polypeptide from host cell.

Remarks

Claims 22-197 have been canceled. Claims 198-262 have been added. Applicants submit that the subject matter of new claims 198-233 fall within the scope of Group I, Sub-Group Ib, as defined by the Examiner in the Office action mailed 3 March 1999. The newly filed claims find support in the claims as originally filed and throughout the specification. Thus, no new matter has been added to any of the newly added claims.

Applicants respectfully traverse the restriction requirement as it applies to Groups I-VI. As the Examiner points out, polynucleotides, polypeptides, and methods of using the same are patentably distinct inventions. However, even where two